INTISARI

Telah dilakukan penelitian permodelan fisis struktur geologi 3 lapisan pada bak kaca ukuran 60 x 60 x 150 cm^3, menggunakan 2 lubang bor (*Crosswell*) metoda geofisika elektromagnetik dengan pemrograman Borland Delphi 1.0. Pengukuran pada tegangan amplitudo rata-rata dilakukan di 3 titik tembak pada kedalaman 5 cm, 20 cm, 35 cm. Alat penelitian menggunakan pemancar berfrekuensi 7 MHz/6 W, kalibrasi peralatan diperoleh dari konduktivitas udara lembab di laboratorium (kelembaban 80%, suhu 20^0 C). Pengambilan data menggunakan satu medium tanpa anomali dan 9 model anomali yang divariasi letaknya.

Metoda/kerangka yang digunakan adalah menghitung tegangan amplitudo rata-rata sesuai kedalaman pemancar-penerima (9 lintasan) untuk mendapatkan nilai atenuasi, konduktivitas dan resistivitas (interpretasi kuantitatif). Interpretasi kualitatif dilakukan dengan pemrograman Delphi 1.0 yang menunjukkan citra resistivitas 3 lapisan medium sebagai fungsi gradasi warna dan kedalaman.

Hasil permodelan fisis tomografi yang diperoleh adalah nilai resistivitas masing-masing kedalaman sesuai dengan jenis lapisannya dan dibandingkan dengan literatur (hasil interpretasi kuantitatif). Selanjutnya dari nilai resisitivitas masing-masing lintasan sesuai kedalaman dicitrakan dengan pemrograman Delphi 1.0 yang menunjukkan citra 3 lapisan medium tanpa anomali dan 9 citra medium dengan variasi letak anomali (hasil interpretasi kualitatif).

ABSTRACT

Physical modelling of geological structure had been carried out by using electromagnetic tomography method. The model is arranged by three layers of medium with in 60 x 60 x 150 cm^3 dimention of glass box. Borland Delphi 1.0 is used to view imeges of medium and anomalous by three shoot-receiver depth points in 5 cm, 20 cm and 35 cm. 7 MHz/6 W was used and calibrated on air conductivity in the laboratory wich had humidity 80% and temperature 20^0C. The Data were taken from a normal medium and nine variations of anomalous medium.

In this method, the average amplitudes had been calculated quantitatively according to the depth of transmitter-receiver (9 paths) to obtained the values of attenuation, conductivity and resisitivity. Quantitative interpretation was carried out by Delphi 1.0 programming wich the images of three layer of medium shown as function of colour gradation and depth.

In these model, it had been obtained resistivity values in each depth appropriate the tipe of layer, and then were compared by literatures (product of quantitative interpretation). Then resistivity values in each paths appropriate of depth and images of layer as resistivity function by Borland Delphi 1.0 programming showed three layers image a normal medium and nine variations anomalous medium (product of qualitative interpretation)..